Applicants: Steffen PETERS et al.

Appl. No. 10/810,890

<u>AMENDMENTS</u>

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of the Claims:

1. (Currently Amended) A measuring device for monitoring a material and determining a parameter that is related to the dielectric properties of the material, comprising

a product area for receiving the product a traveling strand of fibrous material, wherein the product area is a channel,

a first microwave resonator from which, in operation, microwaves can enter the product area, and

a compensation device for compensating for environmental influences, the compensation device comprising

a second microwave resonator which is shielded from the product area in respect of microwave radiation.

- 2. *(Original)* A measuring device according to claim 1, in which the compensation device is arranged to compensate for temperature variation.
- 3. *(Currently Amended)* A measuring device according to claim 1, which is arranged to determine the density of the product traveling strand of fibrous material.
 - 4. (Canceled)
- 5. (*Original*) A measuring device according to claim 1, in which the first resonator and the second resonator are of substantially the same construction.
- 6. (*Original*) A measuring device according to claim 1, in which the first resonator and the second resonator are at least partly filled with a dielectric.

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- 7. (Original) A measuring device according to claim 1, in which the first resonator and the second resonator are arranged adjacent to each other, and separated by a space.
- 8. (*Original*) A measuring device according to claim 1, in which the first resonator and the second resonator form a modular unit.
- 9. (Currently Amended) A measuring device according to claim 1, in which, in operation, the product traveling strand of fibrous material runs through the first resonator.
- 10. (Currently Amended) A measuring device according to claim 1, in which the first resonator and/or the second resonator are each a substantially shielded cavity resonator with an opening for the admission of the product traveling strand of fibrous material.
 - 11. (Currently Amended) A fibrous material processing machine having at least one fibre processing element, and further comprising a measuring device having

a first microwave resonator <u>from which, in operation, microwaves can</u> enter a product area, and

a compensating device comprising a second microwave resonator <u>shielded</u> from the product area in respect of microwave radiation, wherein the measuring device being is positioned at a measuring location and the processing element of the machine is being adjustable in dependence of measurement values obtained at the measurement measuring location.

12. (Previously Presented) A machine according to claim 11, which is for processing textile fibre material, and in which the measuring device is arranged to monitor the density of a textile fibre sliver and the processing element is adjustable for influencing properties of the sliver.

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- 13. (Currently Amended) A machine according to claim 11, the machine being a carding machine, and the measurement measuring device being arranged near a delivery outlet of the carding machine.
- 14. *(Currently Amended)* A machine according to claim 11, which is a draw frame, the measurement measuring device being arranged near a delivery outlet of the draw frame.
- 15. (Currently Amended) A machine according to claim 11, which is a draw frame, the draw frame comprising the measurement measuring device in an inlet region and the compensating device in an outlet region.
- 16. (Currently Amended) A machine according to claim 15, comprising a machine control and regulation device to which each the measuring measurement device is and the compensating device are connected.
- 17. (Currently Amended) A machine according to claim 16, further comprising an actuation device for the processing element, the actuation device being controllable by the control and regulation device in dependence on measurement data received from the first measurement measuring device and/or measurement data received from the second measurement compensating device.
- 18. (Currently Amended) A method of controlling the density of fibre material in a textile processing machine, comprising

monitoring the fibre material at a measuring location using a <u>measuring</u> device comprising a first resonator and a compensation device, the compensation device comprising a second resonator <u>shielded from the fibre material in respect of microwave radiation</u>, and

adjusting the condition of a processing step in the machine in dependence on measured values obtained by the measuring device.